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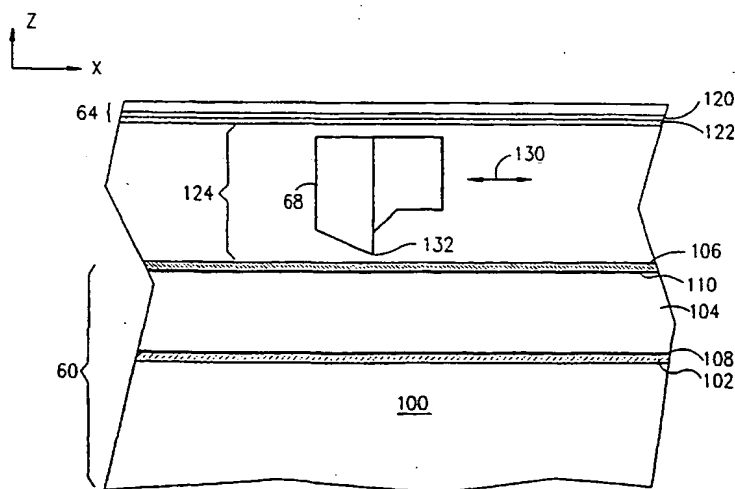
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(54) Title: **DIGITAL DETECTOR FOR X-RAY IMAGING**



(57) Abstract: The present invention discloses an X-ray imaging module having a multilayer ionizing radiation sensitive element (60) operative to convert spatially modulated impinging X-ray radiation to a spatially modulated charge distribution. The multilayer ionizing radiation sensitive element has a substrate (100), a conductive layer (102) overlying the substrate, an ionizing radiation sensitive layer (104) overlying the conductive layer which converts ionizing radiation impinging thereon to charge carriers, and a blocking layer (106) exposed to ionizing radiation and optical radiation, overlying the ionizing radiation sensitive layer. The blocking layer limits the passage of charges, of at least one polarity, and blocks optical radiation, of at least one spectral band, from penetrating therethrough, while permitting passage therethrough of ionizing radiation. The X-ray imaging module also contains a charge injection assembly (68) operative to inject charge into the multilayer ionizing radiation sensitive element and readout circuitry coupled to the multilayer ionizing radiation sensitive element.

WO 01/08224 A1